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EXAMINER	
COOK, LISA V	

ART UNIT	PAPER NUMBER
1641	

DATE MAILED: 01/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/996,030	BUHRING ET AL.	
	Examiner	Art Unit	
	Lisa V. Cook	1641	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4,8-14 and 16-22* is/are pending in the application.

4a) Of the above claim(s) *16-21* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,2,4,8-14 and 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *111601 2802 2204*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Non-Complaint Amendment

1. Applicants response to the Notice of Non-Compliant amendment mailed September 10, 2004 is acknowledged (paper filed 9/20/04). The non-compliance is vacated.

Amendment Entry and Request for Reconsideration

2. Applicant's response to the non-final action mailed 3/10/04 is acknowledged (paper filed 9/20/04). In the amendment filed therein the specification, abstract, and claims were modified. Specifically, claims 1, 2, 4, 8, 12, and 13 were amended while new claim 22 was added. Claims 3, 5-7, and 15 have been canceled. Claims 16-21 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 12. Accordingly claims 1, 2, 4, 8-14, and 22 are under consideration.

3. Objections and/or Rejections not reiterated below have been overcome.

OBJECTIONS MAINTAINED

Information Disclosure Statement

4. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the examiner on form PTO-892 or applicant on form PTO-1449 has cited the references they have not been considered.

5. The information disclosure statement filed 11/6/01 has been considered as to the merits before Final Action. Copies received.

6. The information disclosure statement filed 2/28/02 in paper #4 has been considered as to the merits before Final Action. US patent #6,323,321 – English equivalent of DE 197 08 877 C1.

7. The information disclosure statements filed 6/20/02 in paper #8 has been considered as to the merits before First Action.

8. The information disclosure statements filed 7/23/03 in paper #11 has been considered as to the merits before First Action.

9. The information disclosure statement filed 2/2/04 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. A translation for document no. 6-205695 has not been received. It has been placed in the application file, but the information referred to therein has not been considered.

NEW GROUNDS OF REJECTION NECESSITATED BY AMENDMENT

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

10. Claims 8 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. In claim 8, the use of "analyzing hematopoesis in terms of said cell" is vague and indefinite because it is not clear what property of the cell is analyzed with respect to hematopoesis. The term ""analyzing hematopoesis in terms of said cell" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. As recited the metes and bounds of the claim cannot be determined. Please correct.

B. Claim 12 is vague because it utilizes the phrase "such as". This is unclear because it is not known if the limitations following the phrase (ELISA or FACS analysis) are apart of the claim. It is suggested that the phrase is omitted in order to obviate this rejection. The removal of the phrase "such as" would clearly set forth Applicants intent to claim ELISA or FACS analysis. Appropriate correction is required.

C. Claim 8 is vague and indefinite because it is not clear as to how the method of analyzing hematopoiesis will be conducted. The claim is dependent on claim 1 which merely binds cells. The correlation of or inclusion of the binding method of claim 1 does not further limit claim 8 because no additional steps are included and the procedure for analyzing hematopoiesis is not recited. The claim should be written to include all necessary method steps.

11. Claims 1, 8-9 and 22 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. Merely, reciting the use of reagents in a process format is not considered to be a proper method/process claim.

The claims merely read on the binding of cells whereby an antibody reagent is contacted with the cells. However, the claims do not set forth steps of detecting or measuring the bound complexes. If the complexes are not detected, it is not clear if the complexes exist. Therefore it is not clear if applicant intends to claim a method of detecting binding complexes of cells (cell-antibody complex. Steps relating to the detection of the bound complex further correlated to the method of claim 1 must be provided.

Further, there are no claimed steps reciting the washing/removal of unbound material. With respect to claim 1, a separation step that removes unbound reagents from the formed complex is required. If you do not have a separation step after complex formation, it is not clear how one would distinguish materials bound from those, which are merely present in solution but not bound to the material. Please add steps.

The methods recited in claim 1, 8-9, and 22 require at least a contact step, complex formation, separation, and correlation. Please add the appropriate steps.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

I. Claims 1, 2, 4, 10-12, and 22 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,323,321 in view of Hermine et al. (Blood, 1992, Vol. 80, No.12, pages 3060-3069) and further in view of Shionogi & Co. (EPO 0 596 479 A2).

Although the claims in the instant application and U.S. Patent No.6,323,321 are not identical they are not patentably distinct.

In particular, the claims of U.S. Patent No. 6,323,321 are directed to monoclonal antibody 97A6 produced by the hybridoma deposited as DSM ACC 2297 which binds UT-7 cells.

The patented claims (6,323,321) differs from the instant invention in not specifically reciting a method for binding the UT-7 cell line, which is a basophil cell line or precursor basophil cell line (containing basophil cells) with monoclonal antibody 97A6 produced by the hybridoma deposited as DSM ACC 2297.

However Hermine et al. disclose that the UT-7 cell line contains precursor cells, which can differentiate into basophil cells (reading on a basophil cell line or precursor basophil cell line) in the present of growth factors. See page 3067 – Discussion.

While, Shionogi & Co. teach that monoclonal antibodies are useful in separating and detecting basophil cells. See abstract. Monoclonal antibodies are used to separate and quantify basophil cells from humoral fluids. See page 6 line 20. The antibody-cell complex formed is separated and detected via a marker. See page 6 lines 17-35 and page 10 starting at line 40 through line 56. Shionogi & Co. also disclose that basophil cells are useful in measuring histamine release which is important in diagnosis and pathological analysis of allergic diseases. See page 2 lines 1-9 and lines 21-29.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the monoclonal antibody that binds UT-7 cells in US Patent No. 6,323,321 (Buhring et al.) to bind basophil cells found in the UT-7 cell line as taught by Hermine et al. as a means for separating and detecting basophils as taught by Shionogi & Co. because Hermine et al. taught that the UT-7 cell line contained basophil cells and Shionogi & Co. taught that the separation and detection of basophil cells by monoclonal antibodies was important in diagnosis and pathological analysis of allergic diseases. See page 2 lines 1-9 and lines 21-29.

One of ordinary skill in the art would have been motivated to separate and detect basophils to evaluate allergic diseases.

II. Claims 8-9 and 13-14 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,323,321 in view of Hermine et al. (Blood, 1992, Vol. 80, No.12, pages 3060-3069) and further in view of Shionogi & Co. (EPO 0 596 479 A2) and Irsch et al. (WO 97/46880).

Buhring in view of Hermine et al. and further in view of Shionogi & Co. differ from the instant invention in not specifically teaching basophil activation in hematopoiesis.

However, Irsch et al. teach methods for diagnosis from patient's hematopoietic cells. See page 2 lines 29-32 and page 3 lines 3-7. The method separates (isolates) antigen bound cells. Page 5 lines 24-31. Cell analyses and quantification is taught on page 11 lines 10-21. Basophil cell activation or effector cell such as basophilic granulocytes labeled by the allergen are shown to be useful in positively diagnosis of allergen hypersensitivity in a patient. See abstract and page 11 lines 22-29.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the 97A6 antibody basophil binding method taught by Buhring in view of Hermine et al. and further in view of Shionogi & Co. to detect, isolate and quantify hematopoiesis in activated basophils (allergen labeled cells) as taught by Irsch et al. because Irsch et al. taught that allergen diagnosis of a patients hematopoietic cells via antibody-activated basophil binding was useful in determining hypersensitivity. Page 2 lines 29-31, page 3 lines 3-7, and page 11 lines 10-21, for example.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

III. Claims 1, 2, 4, 10-12 and 22 are rejected under 35 U.S.C. 102(e) as being anticipated by Buhring (US Patent #6,323,321) as evidenced by Blom et al. (European Journal of Immunology, 1992, Vol.22, No.8, pages 2025-2032) and Hermine et al. (Blood, 1992, Vol. 80, No.12, pages 3060-3069).

Buhring discloses monoclonal antibody 97A6 produced by the hybridoma deposited under No. DSM ACCC 2297. The antibody is taught to be useful in antigen (surface structure) binding on various cell lines including the megakaryocytic cell line UT-7. See table 1 and column 1 lines 36-39.

In a preferred embodiments the antibody is linked/joined to a fluorescent maker and used in ELISA procedures (immunological detection). Column 2 lines 9-17. In one instance blood samples are screened for antigen binding with the 97A6 antibody. See column 2 lines 59-62. The 97A6 antibody was determined to be of and IgG1 isotype or belonging to the IgG1 immunolglobulin class (not an IgE). Column 3 lines 28-39.

The patent is silent with respect to the antibody binding basophil cells, mast cells, and precursors of these cells. However the antibody was shown to bind cell lines (UT-7 and KU.812), which include the basophil and mast cell type. The prior art teaches that the cell lines that bound antibody 97A6 include mast and basophil cells. Hermine et al. disclose the UT-7 cell line having basophil cells while Blom et al. disclose that the KU812 cell line has mast and basophil cells. Therefore this limitation is inherent to the patent to Buhring.

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

IV. Claims 8-9 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buhring (US Patent #6,323,321) in view of Irsch et al. (WO 97/46880).

Buhring differs from the instant invention in not specifically teaching basophil activation in hematopoiesis.

However, Irsch et al. teach methods for diagnosis from patient's hematopoietic cells. See page 2 lines 29-32 and page 3 lines 3-7. The method separates (isolates) antigen bound cells. Page 5 lines 24-31. Cell analyses and quantification is taught on page 11 lines 10-21. Basophil cell activation or effector cell such as basophilic granulocytes labeled by the allergen are shown to be useful in positively diagnosis of allergen hypersensitivity in a patient. See abstract and page 11 lines 22-29.

Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to utilize the 97A6 antibody basophil binding method taught by Buhring in view of Hermine et al. and further in view of Shionogi & Co. to detect, isolate and quantify hematopoiesis in activated basophils (allergen labeled cells) as taught by Irsch et al. because Irsch et al. taught that allergen diagnosis of a patients hematopoietic cells via antibody-activated basophil binding was useful in determining hypersensitivity. Page 2 lines 29-31, page 3 lines 3-7, and page 11 lines 10-21, for example.

Response to Arguments

Rejection under 35 U.S.C. 102(e): Applicant contends that Buhring teaches that the antibody 97A6 is capable of binding to cell lines UT-7 and KU812 (leukemia cell lines). Further arguing that the cell lines do not include mast and basophil cells. This argument was carefully considered but not found persuasive because the claims read on precursor mast cells and precursor basophil cells. Both UT-7 and KU812 can be induced or differentiated to form basophil cells. (Supported in Applicants response filed 9/20/04 –page 9 and in the specification on page 21 – example 5). Therein reading on the limitation of a precursor basophil cell recited in the claims. Also, Buhring et al. (US Patent No.6,323,321) disclose that the KU812 cell line contains megakaryocytic cells as well as basophil cells. See Column 4 Table I.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., cancer cell difference from highly differentiated and specialized mast or basophil cells) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Accordingly, the rejection is maintained.

Rejection under 35 U.S.C. 103(a): Applicant contends that because Buhring et al. employ the UT-7 and KU812 it does not disclose antibody 97A6 binding of mast cells, basophil cells, precursor mast cells, or precursor basophil cells. This argument has been addressed above and was not found persuasive.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the use of antibodies to detect, isolate and quantify activated basophils (allergen labeled cells) finds motivation and expectation of success in the teachings of Irsch et al. (WO 97/46880) and Shionogi & Co. (EPO 0 596 479 A2) because both references utilized antibodies to bind basophil cells and Irsch et al. taught that allergen diagnosis of a patients hematopoietic cells via antibody-activated basophil binding was useful in determining allergic patient hypersensitivity. Page 2 lines 29-31, page 3 lines 3-7, and page 11 lines 10-21, for example. While, Shionogi & Co. also disclose that basophil cells are useful in measuring histamine release which is important in diagnosis and pathological analysis of allergic diseases. See page 2 lines 1-9 and lines 21-29.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., characteristics of basophil or mast cell lines) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In response to the argument that WO 97/46880 does not disclose an antibody, which can compare to 97A6 it is noted that the WO 97/46880 reference is sited in combination with Buhring. Buhring disclosed antibody 97A6 and the WO 97/46880 document is merely relied upon to make obvious methods of using antibodies to bind basophil cells.

While a deficiency in a reference may overcome a rejection under 35 USC 103, a reference is not overcome by pointing out that a reference lacks a teaching for which other references are relied. In re Lyons,364 F.2d1005, 105USPQ 741, 746 (CCPA 1966).

The test for obviousness is not whether the features of one reference may be bodily incorporated into the other to produce the claimed subject matter but simply what the combination of references makes obvious to one of ordinary skill in the pertinent art. See In re Bent, 52CCPA 850, 144USPQ 28(1964); In re Nievelt, 179 USPQ 224 (CCPA 1973).

The rejections are maintained.

15. For reasons aforementioned, no claims are allowed.

16. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

17. Papers related to this application may be submitted to Group 1600 by facsimile transmission. Papers should be faxed to Group 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform to the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Group 1641 – Central Fax number is (571) 273-8300, which is able to receive transmissions 24 hours/day, 7 days/week. In the event Applicant would like to fax an unofficial communication, the Examiner should be contacted for the appropriate Right Fax number.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa V. Cook whose telephone number is (571) 272-0816. The examiner can normally be reached on Monday - Friday from 7:00 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le, can be reached on (571) 272-0823.

Any inquiry of a general nature or relating to the status of this application should be directed to Group 1600 whose telephone number is (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see httpr//pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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